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CLAIMPTO 09980819

LP 9-9-04

1. (Amended) A method for producing an aspartic proteinase from plant origin using yeast as a host cell said method comprising the introducing into that host cell a plant DNA construct containing the sequence encoding [the] said aspartic proteinase from plant origin and growing said host cell comprising said plant DNA construct containing the sequence encoding said aspartic proteinase from plant origin in a culture medium whereby said aspartic proteinase from plant origin or part thereof is secreted or not into the culture medium.

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2. A method according to Claim 1 whereby said DNA sequence forms part of a DNA construct which is introduced into said host cell and which comprises in the direction of transcription a pro sequence heterologous to said host cell or to said aspartic proteinase from plant origin and said pro-sequence is joined in reading frame to the said DNA sequence coding for the mature aspartic proteinase from plant origin whereby said aspartic proteinase from plant origin is secreted by said host cell
3. A method according any one of Claims 1 and 2 wherein said aspartic proteinase from plant origin is a plant enzyme
4. A method according to 1 to Claim 3, wherein said enzyme is a plant aspartic proteinase or an unprocessed form thereof
5. A method according to Claim 1 to 4 wherein said enzyme is cyprosin or mutant forms thereof
6. A method according to any one of the Claims 1 to 4 wherein said aspartic proteinase from plant origin is cardosin or mutant forms thereof
7. A method according to any one of Claims 1 to 6 wherein said host cell is an yeast strain with laboratory or industrial interest
8. A method according to any one of Claims 1 to 7 wherein said host cell is from the genus *Saccharomyces* used for the transformation and expression of plant aspartic proteinases encoding genes and the secretion of the aspartic proteinase from plant origin encoded by said genes or secretion of part of said aspartic proteinase from plant origin

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9. A transformed yeast host cell comprising an expression cassette which comprises, in the direction of transcription a leader sequence functional in said host cell composed of a pro-sequence heterologous to said host cell or to an aspartic proteinase from plant origin and said pro-sequence is joined in reading frame to the DNA sequence encoding for the said mature aspartic proteinase from plant origin
10. A cell according to Claim 9 wherein said pro-sequence is a plant aspartic proteinase pro-sequence
11. (Amended) A cell according to Claims 9 [and] or 10 wherein said aspartic proteinase is a plant aspartic proteinase or a part thereof.

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12. A cell according to Claim 9, 10 and 11 wherein said aspartic proteinase from plant origin is cyprosin or an unprocessed form thereof
13. A cell according to Claim 9, 10, 11 and 12 wherein said aspartic proteinase from plant origin is cardosin or an unprocessed form thereof
14. The expression cassettes constructs for use in a yeast host cells comprising: in the direction of transcription a leader sequence composed of a pro-sequence heterologous to said host cell or to aspartic proteinase from plant origin and said pro-sequence is joined in reading frame to the DNA sequence encoding for the said mature aspartic proteinase from plant origin

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15. The expression cassettes constructs according to Claim 14, wherein said pro-sequence is heterologous to said host cell or to said aspartic proteinase from plant origin or to said host cell and said aspartic proteinase from plant origin
16. The expression cassettes constructs according to Claim 14 or 15 further comprising the pro-sequence of the plant aspartic proteinase and the plant gene encoding plant aspartic proteinases
17. A method according to any one of Claims 1 to 8 wherein said aspartic proteinase from plant origin or part thereof is isolated either from the cell extracts or from the culture medium
18. A method for detection of the aspartic proteinase from plant origin either in the cell extracts or in the culture medium using the antibody raised against the said aspartic proteinase from plant origin
19. (Amended) A method for detection of the aspartic proteinase from plant origin either in the cell extracts or in the culture medium using the [antibody CCMP1] polyclonal antibodies against plant-origin acidic aspartic proteinase (CCMP1).

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20. The transformed yeast cells in culture described in Claims 9 to 13 characterised by their production of recombinant plant aspartic proteinases with milk clotting activity which cleave caseins from milk of different origins, namely sheep's, cow's and goat's milk confirmed by milk clotting tests
21. The transformed yeast cells in culture described in Claims 9 to 13 characterised by their production of recombinant plant aspartic proteinases including cyprosin and cardosin capable of giving to cheese a special taste and flavour